

Infant feeding through the ages

FRED WEINBERG, MD, FRCPC

Universally, it is agreed that breast milk is the best food for infants. A 17th-century English document points out that, at one time, mothers objected to breastfeeding because "it was troublesome, it soiled their clothes, and it made them look old."¹

And so in western Europe the practice of wet-nursing developed, which peaked in the 17th century. But even this practice was frowned upon by many families because of the lack of real caring for the infants by the wet nurses who were mainly recruited from the lowest element of society.

In England during the 17th and 18th centuries, infants were often not maternally nursed because of the mother's desire "to enjoy diversions more freely, have more time to dress, receive and pay visits, attend public shews, and spend the night at their beloved cards."² Many people believed that a wet nurse might transmit "her evil passions and vicious inclinations"³ to the infant through her milk.

But infants still had to be fed. Sometimes their mouths were applied directly to the teats of animals,

Dr Weinberg is an Honorary Consultant in the Department of Neurology at The Hospital for Sick Children in Toronto. He has an avid interest in medical antiques.

especially goats or donkeys. More often, the animal was milked and the raw fluid, whole or diluted, was given to the infant through one of several types of utensils. The dangers of feeding infants contaminated fluids were certainly recognized, and so paps and panadas, thick, usually milkless cereal feedings, were frequently the sole source of infant nutrition. The pap or panada, of bread and water, was frequently fed from a spoon or a pap boat, and became the feeding of choice. One can easily understand why in London, during the late 18th century, almost half of the infants born alive died before the age of 2 years. By comparison, in Toronto today only seven infants out of 1000 born alive die before the age of 2 years.

Ancient Greek and Roman specimens of infant feeding vessels are frequently found in excavations. Although these vessels were all thought to be oil containers for filling lamps, experts now accept that some of them were infant feeders. The vessels have been found at infant burial sites, and chemical analysis of the residue found in them has turned up casein. The short sucking spout was undoubtedly covered with a nipple of rag or parchment.

Substitute for breast milk

Through the ages, finding a substitute for breast milk always posed a

problem, because, without pasteurization, animal milk went sour within hours. In London, this reality was well understood, and so the sale of milk was permitted on Sundays. As London grew during the 17th and 18th centuries, farms were farther from the city, and people could not buy milk directly. They had to depend on suppliers who brought milk into London from nearby farms, and certainly on warmer days this practice became deadly for infant feeding.

Goat milk or donkey milk was thought to resemble breast milk more closely than cow's milk because it produced a smaller curd. Because fresh donkey milk was almost twice the price of ordinary milk, it was common for a donkey to be brought to the house and milked on the doorstep so that the purchaser would have no doubts about the milk's origin or freshness.

Enterprising middlemen who brought milk into the city were notorious for thinning the milk with water and then adding chalk to make it appear creamy again. It is amazing that any babies survived this diluted, unboiled, chalky water, and indeed contemporary writers suggest that many infants died.

Having decided to feed animal milk to babies, the problem then was finding a suitable container from which newborns could suck. In France, babies were put to goats' teats to suck directly. Because the milk was fresh, this method of feeding was considered successful and was recommended in the medical books of the 19th century.

As for containers, a cow's horn was the simplest to obtain, and a small hole at its tip would transform it into a feeder. Bottles, once filled, could be left half full between feedings, but in a warm room, the milk would go sour rapidly. Older containers were made of pottery, although, even in Roman times, glass was sometimes used along with the more common clay and ceramic containers.

By the 17th century in Europe, the variety of infant feeding devices was great. Feeders were made from wood, pewter, glass, silver, and ceramics.

continued on page 2020

English submarine-shaped infant feeders made of pottery and glass (1830 to 1860)



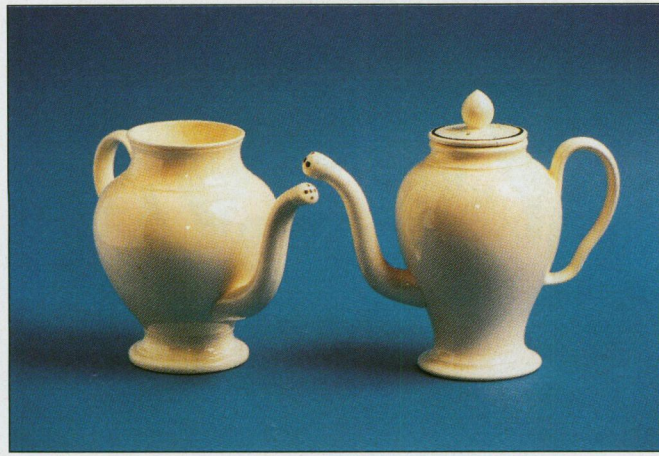
Silver submarine-shaped feeder in foreground, pap boats, and spouted feeders



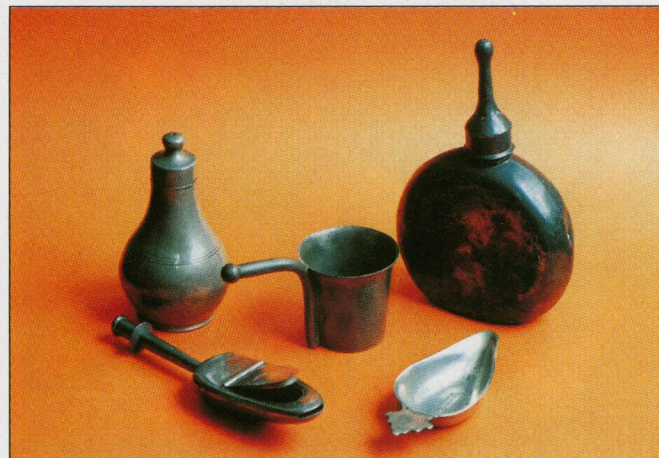
English and Continental pap and spouted ceramic feeders (18th century)



Dr Hugh Smith's "bubby pots" with 200-mL capacity



English and Continental feeders made from pewter (18th century)



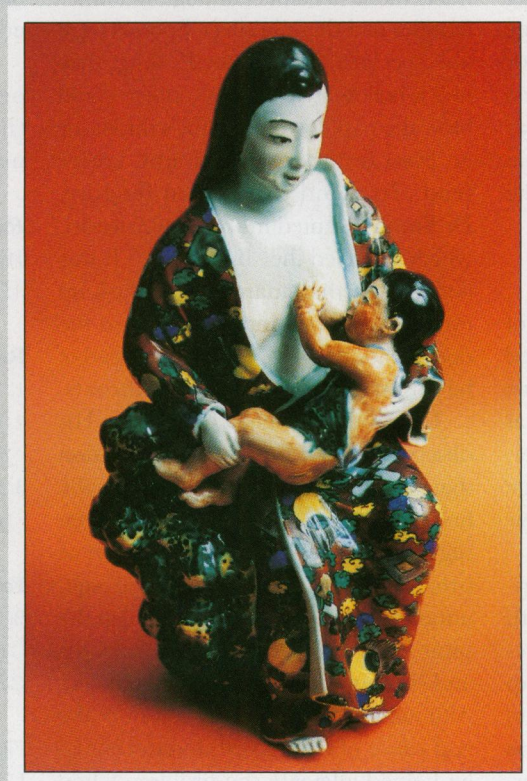
Children's toy burial animals, a pre-Columbian (broken) baby rattle made of clay, an intact rattle found during an excavation in Jordan, and a Roman pottery infant feeder (foreground)



Two milk bottles (circa 1910) from the Hospital for Sick Children in Toronto found during excavation for the SkyDome stadium, also a boat-shaped early American feeding bottle and an original Pablum box



An 11th-century nursing figure representing Kintaro (Golden Boy), a Japanese folklore hero who became a prodigy of herculean strength





Infants nursing directly from donkeys at a Sick Children's Hospice (1887): Original painting by F. de Haenen.

All the artifacts illustrated are from the personal collection of Dr Fred and Joy Weinberg.

They all, however, were a problem to clean, and the innermost areas must have teemed with bacteria. The improvised teats were no better; anything from a small piece of cloth to a sponge through which the milk would filter or an animal's teat was used. Cleanliness as a prerequisite for safe feeding was not yet appreciated. When the India rubber nipple was invented in 1845, the situation improved.

Physician ahead of his time

Dr Hugh Smith, a famous physician of the 18th century in England, prescribed a pint of milk (0.47 L) daily for newborn babies, increasing to 2 pints (0.94 L) at 3 months of age. Parents, however, tended to stuff their babies with large amounts of solid food, especially if their babies were not thriving on milk.

Dr Smith well understood the nutritional value of milk as compared with pap made out of bread. Many, however, still preferred to feed infants pap (bread with water, a little flour or sugar, and sometimes castile soap, which was thought to aid digestion). Only occasionally was cow's milk added to pap.

Because pap was thicker than milk, it could not be given through a horn or

bottle feeder, so a spoon or pap boat was used. These little dishes resembled gravy boats without a handle and were normally made of china, although wealthier families had them in silver. Spoons were also specially adapted for feeding: they had a hollow stem so that a nurse could blow the pap down the baby's throat for an even faster and, no doubt, larger feed. To avoid this forced feeding, Dr Smith invented his own baby feeder, which he called the "bubby pot." It was designed so that infants had to suck up every bit of food, and according to the doctor, labour for their supper instead of having it poured down their throats.

Dr Smith was ahead of his time. His observations led him to the conclusion that cow's milk should be boiled for the first 2 months of a baby's life and a little sugar added to make it taste as sweet as breast milk. After 3 months of age, unboiled milk could be given, and at the same time other foods, such as broths and chicken meat, could be introduced. Although Dr Smith was ignorant of the real cause of failure with hand feeding, he helped alleviate the problem when he advocated boiling the milk.

Considering how little was known about infant nutritional requirements, it

is amazing that any infants survived hand feeding before this century. The survivors were few, and as late as 1870, more than one third of hand-fed babies were expected to die during the first year of life.

Breastfeeding then as now was recognized as the best way of assuring the growth and development of newborn infants. ■

Requests for reprints to: Dr Fred Weinberg, 99 Avenue Rd, Suite 508, Toronto, ON M5R 2G5

References

1. *The countesse of Lincolnes nurserie*. Oxford, 1622.
2. Drake TGH. *Infant feeding in England and France from 1750 to 1800*. 1930.
3. Drake TGH. *Infant feeders and feeding in bygone days*. Toronto: 1956.

For further reading

Bennion E. *Antique medical instruments*. Berkeley, Calif: Sotheby Park Bernet, University of California Press, 1979.

Fildes V. *Breasts, bottles and babies*. Edinburgh: University Press, 1986.

Fildes V. *Wet nursing*. Oxford: Basil Blackwell Inc, 1988.